



## **West Central Phoenix**

Water Quality Assurance Revolving Fund (WQARF) Sites:  
East Grand Avenue, North Canal Plume, North Plume, West  
Osborn Complex

## **Community Involvement Plan**



**June 2022**

**ADEQ Document No. EQR-22-10**

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**Disclaimer:** All telephone numbers, email addresses, and contact names are subject to change after date of publication.

# **Introduction**

## ***CIP Purpose***

The Arizona Department of Environmental Quality (ADEQ) is committed to involving communities in the Water Quality Assurance Revolving Fund (WQARF) site investigation and cleanup process.

The West Central Phoenix Community Involvement Plan (CIP) describes how ADEQ will fulfill this commitment. ADEQ will regularly update this plan based on site-specific developments, public comments and community concerns. ADEQ welcomes community input on this CIP.

## ***WQARF Process***

The goal of the WQARF process is to clean up sites with groundwater and/or soil contamination to protect human health and the environment. Created under the Environmental Quality Act of 1986, WQARF receives funding from legislative appropriations, cost recovery from responsible parties, and special fees.

The WQARF program identifies contaminated sites in significant need of remediation. WQARF Registry sites are assigned an Eligibility and Evaluation (E&E) score based on several factors, such as the nature and extent of contamination and the number of people who may be exposed to the contaminants. The E&E score does not necessarily mean that the site poses a direct risk to human health and/or the environment.

The WQARF process uses a step-by-step approach to thoroughly investigate contaminated sites. ADEQ uses data from the investigation to develop a site-specific cleanup strategy, also called the site's remedy.

The flowchart in Appendix A depicts each phase in the WQARF process. Refer to the glossary for definitions of each WQARF phase.

## ***ADEQ Spokesperson Contact Information***

The ADEQ designated spokesperson will act as liaison between ADEQ and the community near the West Central Phoenix WQARF sites. The spokesperson will provide notice of public meetings, plan Community Advisory Board meetings, and ensure that CIP requirements are followed. Contact information for the designated spokesperson is below:

### **ADEQ Community Involvement Coordinator**

1110 West Washington Street, 6<sup>th</sup> Floor, Phoenix, AZ 85007

Phone: 602-771-4410

Email: [Flood.Wendy@azdeq.gov](mailto:Flood.Wendy@azdeq.gov)

Fax: 602-771-4272

View Community Involvement Contacts Online: [azdeq.gov/WQARF](http://azdeq.gov/WQARF)

## ***Site Information Repository***

The West Central Phoenix WQARF sites' information repositories contain technical reports, public notices, fact sheets, and this CIP. ADEQ will add site-related documents to the repositories as they are completed. The site information repositories are available in the following locations:

### **Online:**

**East Grand Avenue:** [azdeq.gov/wcp-east-grand](http://azdeq.gov/wcp-east-grand)

**North Canal Plume:** [azdeq.gov/wcp-north-canal-plume](http://azdeq.gov/wcp-north-canal-plume)

**North Plume:** [azdeq.gov/wcp-north-plume](http://azdeq.gov/wcp-north-plume)

**West Osborn Complex:** [azdeq.gov/wcp-west-osborn-complex](http://azdeq.gov/wcp-west-osborn-complex)

### **In Person:**

ADEQ Records Center

1110 West Washington Street

Phoenix, AZ 85007

Phone: 602-771-4380

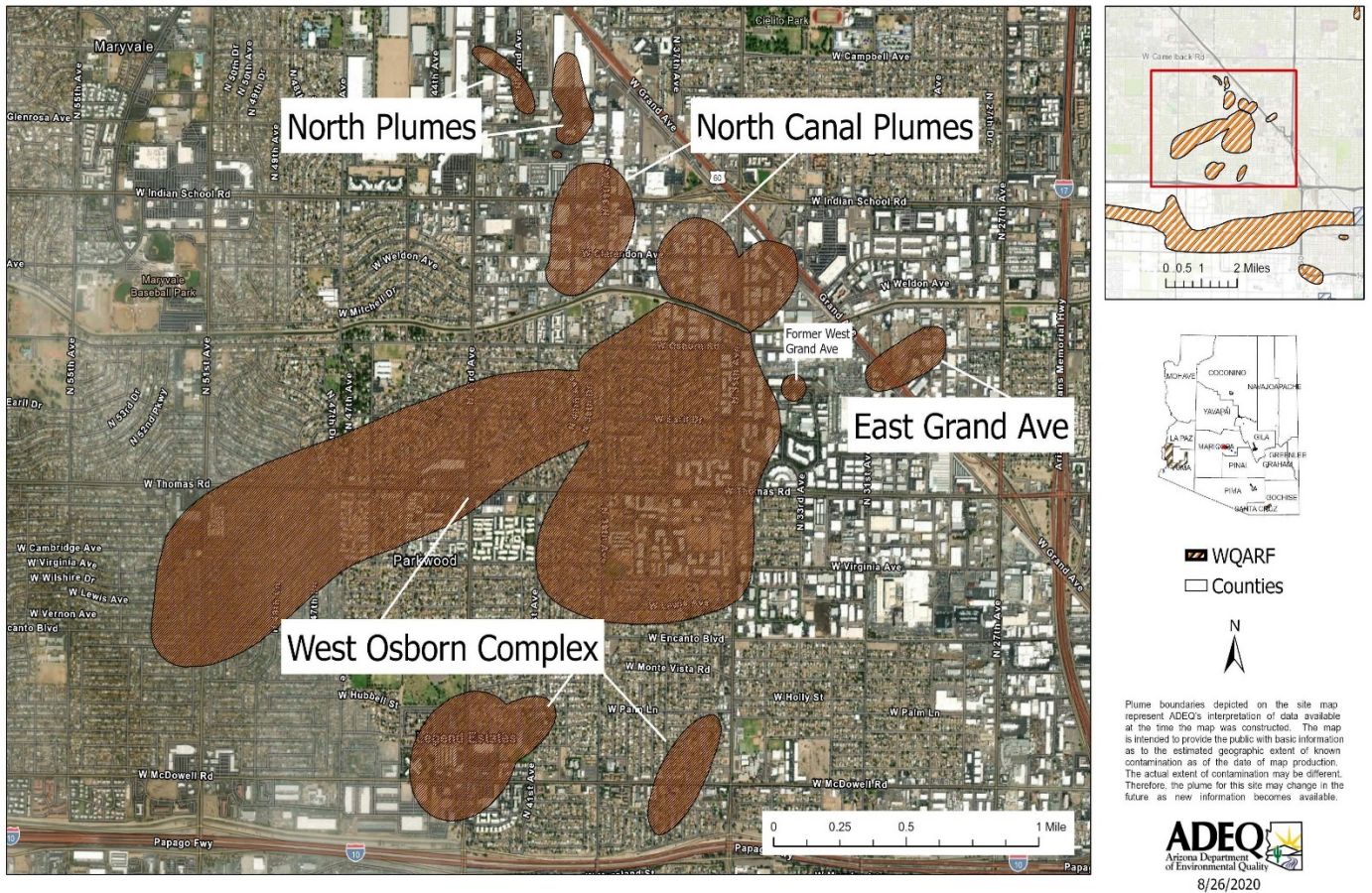
To make alternative arrangements to review documents, contact the ADEQ Community Involvement Coordinator.



# Site Overviews

The following map shows the locations of the West Central Phoenix WQARF sites.

## West Central Phoenix WQARF Sites



## **West Central Phoenix – East Grand Avenue**

The West Central Phoenix – East Grand Avenue WQARF site is generally bounded by the Salt River Project Grand Canal to the north, 29th Avenue to the east, West Cherry Lynn Road to the south, and 33rd Avenue to the west. The site was placed on the WQARF Registry in March 1998 with an eligibility and evaluation (E&E) score of 26 out of a possible total of 120. In 2000, this score was revised to 31 out of 120. The major factor leading to the site's score was the presence of volatile organic compounds (VOCs) in groundwater at levels exceeding Arizona Aquifer Water Quality Standards (AWQS).

The site contaminants of concern are tetrachloroethene (PCE), trichloroethene (TCE), and 1,1-dichloroethene (1,1-DCE). Other contaminants that have been found at the site are benzene, toluene, ethylbenzene, and nitrates.

In 2004, the site's working party constructed and operated a soil vapor extraction (SVE) system at the former Van Waters & Rogers facility. ADEQ completed the remedial investigation (RI) and remedial objectives (RO) reports in 2006. The Feasibility Study (FS) report and Proposed Remedial Action Plan (PRAP) were approved and released by ADEQ in 2020. ADEQ is preparing the site's Record of Decision (ROD).

## **West Central Phoenix – North Canal Plume**

The West Central Phoenix – North Canal Plume WQARF site is approximately bounded by Indian School Road to the north, Flower Street to the south, Grand Avenue to the east, and 41st Avenue to the west. The site was placed on the WQARF Registry in May 1998 with an E&E score of 22 out of 120. In 2000, the score was revised to 27 out of 120. The major factor leading to the site's score was the presence of VOCs in groundwater at levels exceeding AWQS limits. The site contaminants of concern in groundwater are PCE, TCE, 1,1-DCE, and chromium.

The site's final RI report was completed in 2017. In early 2019, an SVE system was installed in the East Plume as an early response action (ERA). Revised Remedial Objectives were issued for public comment in December 2019 and finalized in January 2020. The FS report and PRAP were both released in 2020. ADEQ is preparing the ROD.

## **West Central Phoenix – North Plume**

The West Central Phoenix – North Plume WQARF site is bounded approximately by Highland Avenue to the north, Grand Avenue to the northeast, Indian School Road to the south, 37th Avenue to the east, and 43rd Avenue to the west. The site was placed on the WQARF Registry in March 1998 with an E&E score of 50 out of 120. In 2000, the site score was revised to 55 out of 120. The major factor leading to the site's score was the presence of VOCs in groundwater at levels exceeding AWQS limits.

The site contaminants of concern in groundwater are PCE, TCE, and 1,1-DCE. Other contaminants that have been found at the site are benzene, toluene, ethylbenzene, total xylenes, methyl tertiary butyl ether (MTBE), and nitrates.

ADEQ released the site's final RI and RO reports in 2009, the FS report in 2015, and the PRAP in 2017. ADEQ completed the site's ROD in 2019 and released it in 2020. The selected remedy includes SVE, enhanced reductive dechlorination (ERD), and monitored natural attenuation (MNA). The remedy is being implemented in accordance with the ROD.

## **West Central Phoenix – West Osborn Complex**

The West Central Phoenix – West Osborn Complex WQARF site is bounded approximately by the Grand Canal to the north, Van Buren Street to the south, 33rd Avenue to the east, and 51st Avenue to the west. The West Central Phoenix West Osborn Complex site was placed on the WQARF Registry in April 1998 with a score of 47 out of a possible 120. The major factor leading to the site's score was the presence of VOCs in groundwater at levels exceeding AWQS limits. The site contaminants of concern in groundwater are TCE and PCE.

During the site's investigation, ADEQ determined that there were two contaminated groundwater plumes: a shallow groundwater system plume (SGWS), and a lower sand and gravel subunit (LSGS) plume. ADEQ finalized the RI and RO reports in 2004. In 2012, ADEQ approved and released FS reports for each groundwater system plume.

In 2013, ADEQ issued independent PRAPs for the SGWS plume and the LSGS plume. ADEQ modified the PRAPs in 2014 to address public comments and updated the documents based on the most recent groundwater sampling data. In 2020, ADEQ released a revised, comprehensive PRAP for both groundwater plumes. ADEQ is preparing the ROD.

For a complete history of each West Central Phoenix WQARF site, see Appendix B.

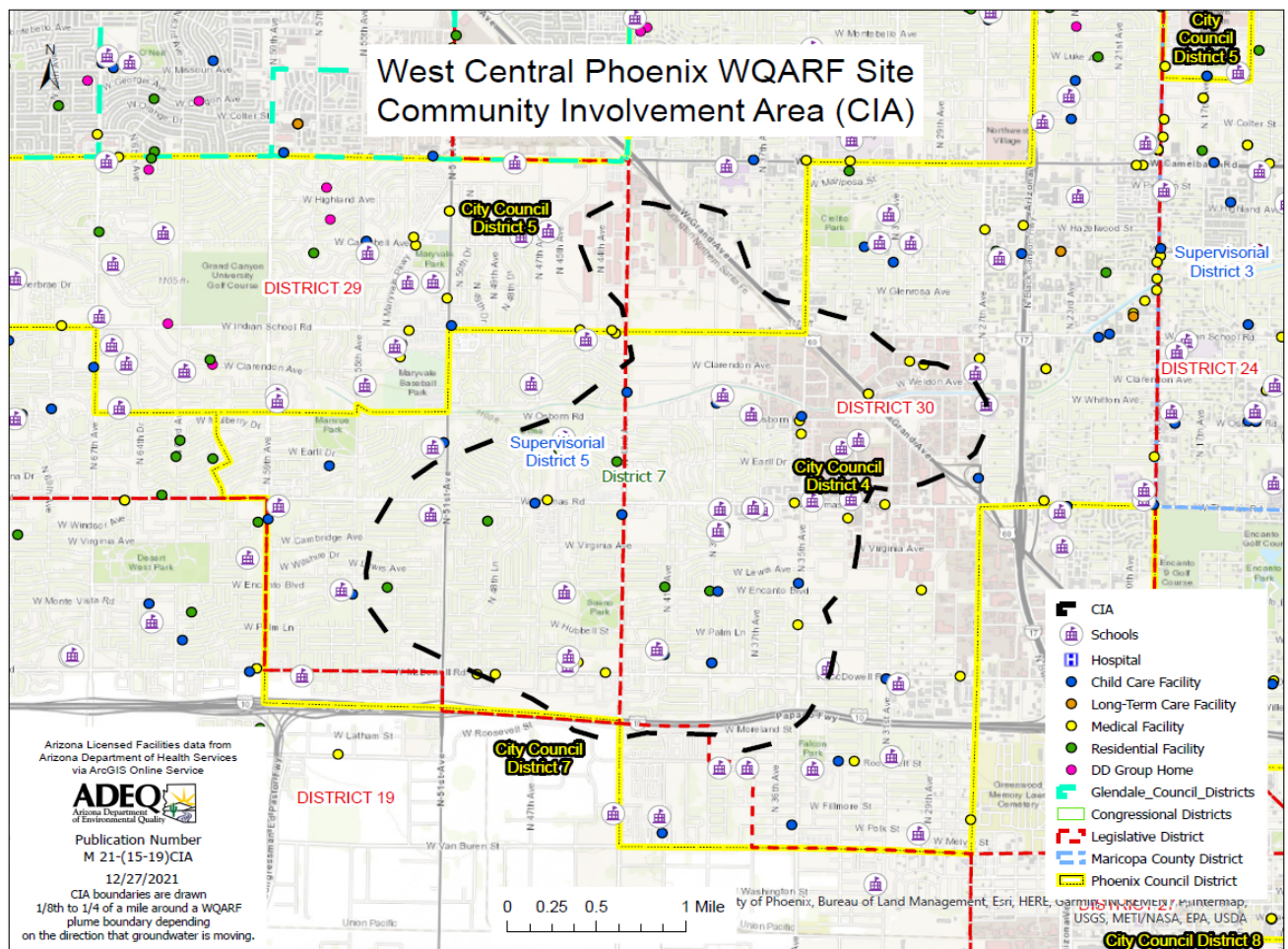


# Community Profile

## **Community Involvement Area (CIA)**

The West Central Phoenix WQARF sites Community Involvement Area (CIA) designates the geographic area in which ADEQ will send mass mailings and focus its outreach efforts. ADEQ established the CIA boundaries based on the affected environmental media (i.e., groundwater or soil), groundwater flow direction, exposure routes, and proximity to residential areas and public facilities. The CIA may change as ADEQ collects more information.

This map illustrates the 2022 CIA for the West Central Phoenix WQARF sites.





## ***Community Demographics***

Demographics help ADEQ plan and implement tailored community involvement activities. The following page displays key demographic information for the West Central Phoenix WQARF sites CIA.

The West Central Phoenix WQARF sites CIA is located in Phoenix, which has an estimated population of 1,633,017 people<sup>1</sup>. The CIA contains a mix of residential, commercial, and industrial areas within six zip codes (85009, 85017, 85019, 85031, 85035, 85043). An estimated 44,358 people live in 11,471 households within the CIA. Among CIA residents above age 18, just over 20% speak English as their only household language. Approximately 75% of residents above age 18 speak Spanish with varying levels of English proficiency. Given the high proportion of Spanish speakers, ADEQ will provide interpretation and translation services as requested.

ADEQ looks at the community as a whole with an emphasis on the proportion of residents under age five and above age 65. These populations are considered more vulnerable to the potential health effects associated with exposure to environmental contamination. In the CIA, approximately 10% of the population is under age five, while eight percent is above age 65.

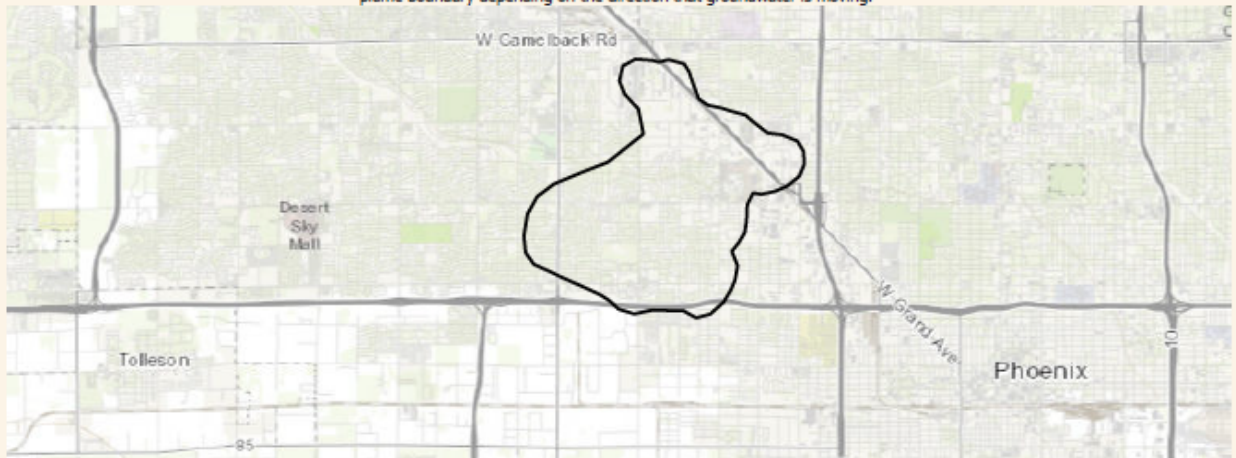
Refer to Appendix C for a list of neighborhood associations, community schools, and vulnerable population centers. For the CIA's state and local elected officials, refer to Appendix D.

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<sup>1</sup> Source: Arizona Demographics Interactive Map Viewer: <https://geo.azmag.gov/maps/azdemographics/>

## WEST CENTRAL PHOENIX -- PHOENIX, ARIZONA

Community Involvement Areas are drawn 1/8th to 1/4th of a mile around a WQARF plume boundary depending on the direction that groundwater is moving.



### Population and Households 2020

**44,358**  
Total Population

**11,471**  
Total Households

**3.85**  
Average Persons per Household

**49%**  
Owner Occupied

**51%**  
Renter Occupied

### Vulnerable Population

**10%**  
Age 0-4

**8%**  
Age 65+

### Race and Ethnicity

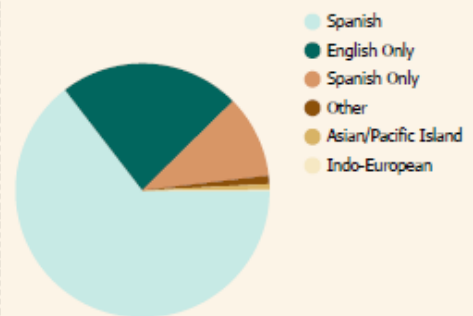
The largest group: Hispanic Origin (Any Race) (86.28)

The smallest group: Pacific Islander Alone (0.08)

Indicator ▲	Value	Diff	
White Alone	42.49	-27.16	
Black Alone	4.99	+0.13	
American Indian/Alaska Native Alone	1.73	-2.85	
Asian Alone	1.03	-2.59	
Pacific Islander Alone	0.08	-0.14	
Other Race	45.62	+32.55	
Two or More Races	4.06	+0.05	
Hispanic Origin (Any Race)	86.28	+54.1	

Bars show deviation from Arizona

### Language Spoken Age 18-65



### 2020 Technology Access

**85%**  
Have a smartphone

**78%**  
Have access to Internet at home

**33%**  
Own any tablet

**46%**  
Household owns a computer

Source: U.S. Census Bureau, American Community Survey and data sources compiled by Esri ArcGIS Business Analyst Web App

# **Community Issues and Concerns**

To better understand the community and its concerns, ADEQ interviewed individuals who live and work near the 51st Avenue and Camelback WQARF sites. As part of this update, ADEQ conducted an online survey in 2021 to assess current concerns about the sites. The following sections summarize common concerns related to the site along with suggestions for ADEQ outreach activities. ADEQ will use this community feedback to ensure that future outreach addresses community concerns and to determine effective communication methods.

## ***Community Interview Summary***

Most of the respondents were familiar with the West Central Phoenix WQARF sites. Most interviewees also were concerned with the severity of the contamination, the length of remedial action activities, and changes in property values. Specific environmental and health concerns expressed by the interviewees included the following:

### **Community Concerns**

Interviewees asked the following questions about the site:

- What are the effects of the contaminants on the health of the community?
- Will the site affect property values?
- What are the effects of the contaminants on water quality?
- Are there any added risks for children in the area?
- Who is responsible for cleanup at the sites?
- Would the contamination impact property values, future development, or traffic in the area?

### **Outreach Recommendations**

Interviewees suggested the following community outreach and involvement strategies to ADEQ:

#### ***Sharing site information:***

- A majority of the respondents stated that ADEQ has not effectively communicated information about the sites to the surrounding community. Additional concerns included:
  - Limited site updates on the ADEQ website.
  - Lack of opportunity for the community to meet with ADEQ and ask questions about the site.
  - One respondent expressed concern that ADEQ provided limited site updates on its website.
- Most respondents believe information from ADEQ is clear and easy to understand.

- The most preferred forms of communicating site updates included:
  - email notifications
  - public meetings
  - postal mailings
- Other preferred communication methods included:
  - informal community meetings
  - social media posts
  - ADEQ website
  - Post site updates on social media (e.g., Facebook, WhatsApp, Instagram, NextDoor) in addition to the ADEQ website.
  - Share site information in residential water utility bills.
- Most respondents said they did *not* prefer to receive site updates through a newspaper.
- Ensure all site mailings and information are in English and Spanish.

*Community Advisory Board (CAB) and public meetings:*

- A majority of respondents who have attended CAB meetings believed they were “somewhat effective”; less than half of respondents said the meetings were “very effective”
- Host at least one meeting a year to share site updates, even if nothing has changed; share brief site histories and the anticipated timeline for site cleanup.
- Host community meetings on a regular basis.
- Always offer Spanish interpretation at CAB and community meetings; provide a Spanish version of all CAB meeting materials (e.g., presentations).

## **Community Involvement Action Plan**

The West Central Phoenix sites' Community Involvement Action Summary table describes the required community involvement activities for each WQARF phase and notes the date of completion. This summary is followed by a description of ADEQ communication techniques to share site information and implement required activities.

### ***Community Involvement Action Summary - Required Activities***

The following table describes the required community involvement activities for West Central Phoenix WQARF sites and notes which actions have been completed to date.



Community Involvement Action Summary							
WQARF Phase	ADEQ Community Involvement Activity	Statute (A.R.S.) and Rule (A.A.C) References	Activity to Date	Complete			
				East Grand Avenue	North Canal Plume	North Plume	West Osborn Complex
Preliminary Investigation	Provide owners and operators a copy of the Draft WQARF Site Registry Report for a 15-day comment period prior to publishing a notice in a newspaper announcing the availability of the Draft WQARF Site Registry Report for a 30-day public comment period.	A.R.S. § 49-287.01(C) A.R.S. § 49-289.03(A)(1)	Mailing to owners and operators: <ul style="list-style-type: none"> <li>- East Grand Avenue, March 1998</li> <li>- North Canal Plume, May 1998</li> <li>- North Plume, March 1998</li> <li>- West Osborn Complex, April 1998</li> </ul> Public notice published in Arizona Republic: <ul style="list-style-type: none"> <li>- East Grand Avenue, April 1998</li> <li>- North Canal Plume, June 1998</li> <li>- North Plume, April 1998</li> <li>- West Osborn Complex, May 1998</li> </ul>	✓	✓	✓	✓
WQARF Registry Listing	Following the listing of a site on the WQARF Registry, ADEQ will: <ul style="list-style-type: none"> <li>• Establish a preliminary community involvement area (see Chapter 2, Section A) within 90 days of site listing on the WQARF Registry.</li> <li>• Provide written notice to the community on hazardous substance contamination in the area, the actual and potential risks and routes of exposure, possible health effects, and the opportunity to join the site mailing list.</li> <li>• Identify ADEQ personnel to contact for further information.</li> </ul>	A.R.S. § 49-289.02	Notice to community and development of Community Involvement Area, April/May 1998  Notice of West Central Phoenix hazardous substance contamination, April 2000	✓			
	Develop a Community Involvement Plan that establishes a Community Advisory Board, designates a spokesperson, provides for newsletters with current information about the status of remedial actions at the site, establishes a public document repository location, and provides for schedules of Community Advisory Board meetings and public meetings. Update the Community Involvement Plan at least every 2 years.	A.R.S. § 49-287.03(D) A.R.S. § 49-289.03(B) A.R.S. § 49-289.03(C) A.A.C. R18-16-404(C)(1)(i) A.A.C. R18-16-404(C)(1)(j) A.A.C. R18-16-404(C)(1)(k) A.A.C. R18-16-404(C)(1)(o)	Original West Central Phoenix Community Involvement Plan, June 2000  Updated West Central Phoenix Community Involvement Plan, September 2009, April 2015, January 2019, May 2022	✓			
Early Response Action	A work plan shall be prepared for each Early Response Action that will include a description of work to be done, known site conditions, a plan for conducting the work; a description of community involvement activities for the Early Response Action under R18- 16-404; and a schedule.  Community involvement activities may include development of a community involvement plan under A.A.C. R18-16-404(C) or community involvement activities appropriate to the scope and schedule of the work performed such as a general public notice to those who may be impacted by field work as indicated in A.A.C. R18-16-404(D)(2).  If immediate action is necessary to address a current risk to public health or the environment, to protect a source of water, or to provide a supply of water, the work plan and written rationale may be prepared and the community involvement activities may be conducted after commencement of the Early Response Action.	A.A.C. R18-16-404 A.A.C. R18-16-405(D)(2) A.A.C. R-18-16-405(E) A.A.C. R18-16-405(G)	Early Response Action activities: <ul style="list-style-type: none"> <li>- East Grand Avenue, 2004-2013</li> <li>- North Canal Plume, 2004, 2006-2007, 2018</li> <li>- North Plume, 2000-2001</li> <li>- West Osborn Complex, 1999-2002</li> </ul>	✓	✓	✓	✓

Community Involvement Action Summary							
WQARF Phase	ADEQ Community Involvement Activity	Statute (A.R.S.) and Rule (A.A.C) References	Activity to Date	Complete			
				East Grand Avenue	North Canal Plume	North Plume	West Osborn Complex
Remedial Investigation	Provide notice to interested parties announcing the availability of the Remedial Investigation Scope of Work or Work Plan, Fact Sheet, and Community Involvement Plan outline for review and a 30-day public comment period. Provide notice indicating that any person by written agreement with ADEQ may develop and implement a work plan for the Remedial Investigation and Feasibility Study and solicit information regarding the current and future land and water uses at the site. These notices shall also provide an opportunity to request a public meeting.	A.R.S. § 49-287.03(B) A.R.S. § 49-287.03(C) A.A.C. R18-16-301(C) A.A.C. R18-16-403(F) A.A.C. R18-16-403(G) A.A.C. R18-16-404(C)(1)(a) A.A.C. R18-16-406(B) A.A.C. R18-16-406(D)	Combined West Central Phoenix notice, 1998	✓			
	Establish a selection committee to choose Community Advisory Board members for the site. The selection committee shall consist of the following members: <ul style="list-style-type: none"> <li>• ADEQ: 1</li> <li>• Potentially Responsible Party: 1</li> <li>• Local Official: 1</li> <li>• Community Member: 2</li> </ul>	A.R.S. § 49-289.03(D)	West Central Phoenix Community Advisory Board selection committee established April 2000 and August 2014	✓			
	Establish a Community Advisory Board with 5 to 20 members that represent a diversified cross section of the community. Within 90 days of appointment by the Community Advisory Board selection committee, the Community Advisory Board shall elect co-chairpersons and develop a charter defining operating procedures, membership terms and obligations, goals for developing issues, concerns and opportunities related to quick cleanup of the site, and any other anticipated activities for identifying and improving the public's access and understanding of information regarding the remediation process at the site.	A.R.S. § 49-289.03(C) A.R.S. § 49-289.03 (E) A.R.S. § 49-289.03(F)	West Central Phoenix Community Advisory Board established, June 2000 and October 2014	✓			
	Publish a combined public notice announcing the availability of the Draft Remedial Investigation Report for review and a minimum 30-day public comment period and the date of a public meeting to solicit Remedial Objectives for the site. The public meeting shall be held not less than 45 calendar days and not more than 90 calendar days after release of the Draft Remedial Investigation report, unless ADEQ sets a different date for good cause. The Draft Remedial Investigation Report should be provided to the Community Advisory Board, interested local government agencies, affected water providers and the Department of Water Resources.	A.A.C. R18-16-301(C) A.A.C. R18-16-404(C)(1)(b) A.A.C. R18-16-406(F) A.A.C. R18-16-406(I)(1) A.A.C. R18-16-406(I)(2)	Public notice and comment: <ul style="list-style-type: none"> <li>- East Grand Avenue, May 2004</li> <li>- North Canal Plume, May 2017</li> <li>- North Plume, August 2006</li> <li>- West Osborn Complex, August 2004</li> </ul> Public meetings: <ul style="list-style-type: none"> <li>- East Grand Avenue, August 2004</li> <li>- North Canal Plume, June 2017</li> <li>- North Plume, September 2006</li> <li>- West Osborn Complex, November 2004</li> </ul>	✓	✓	✓	✓
	Publish a public notice of the availability of the Final Remedial Investigation Report, which shall contain the results of site characterization and the final Remedial Objectives Report. The final Remedial Investigation report shall be accompanied by responsiveness summaries regarding comments, issues and concerns raised in the community involvement process and, if the report is prepared by a person other than ADEQ, copies of the comments received.	A.A.C. R18-16-301(C) A.A.C. R18-16-404(C)(1)(c) A.A.C. R18-16-406(I)(5) A.A.C. R18-16-406(J)	Proposed Remedial Objectives Report public notice and comment: <ul style="list-style-type: none"> <li>- East Grand Avenue, January 2006</li> <li>- North Canal Plume, June 2017</li> <li>- North Plume, September 2008</li> <li>- West Osborn Complex, April 2005</li> </ul> Final Remedial Investigation Report public notice: <ul style="list-style-type: none"> <li>- East Grand Avenue, July 2006</li> <li>- North Canal Plume, December 2017</li> <li>- North Plume, January 2009</li> <li>- West Osborn Complex, July 2005</li> </ul>	✓	✓	✓	✓

Note: A potentially responsible party search is conducted concurrently with the Remedial Investigation and Feasibility Study, but does not have mandated community involvement activities.

Community Involvement Action Summary							
WQARF Phase	ADEQ Community Involvement Activity	Statute (A.R.S.) and Rule (A.A.C) References	Activity to Date	Complete			
				East Grand Avenue	North Canal Plume	North Plume	West Osborn Complex
<b>Feasibility Study</b>	Provide notice to interested parties announcing the availability of the Feasibility Study Work Plan*  *Although not mandated, ADEQ will also provide public notice upon completion of the Feasibility Study.	A.A.C. R18-16-404(C)(1)(d) A.A.C. R18-16-407(B)	Feasibility Study Work Plan public notice: - East Grand Avenue, October 2014 - North Canal Plume, January 2018 - North Plume, February 2013 - West Grand Avenue, April 2013 - West Osborn Complex, June 2005  Feasibility Study public notice: - East Grand Avenue, July 2020 - North Canal Plume, January 2020 - North Plume, June 2015 - West Grand Avenue, June 2013 - West Osborn Complex: -Shallow Groundwater System, January 2012 -Lower Sand and Gravel Subunit System, May 2012	✓	✓	✓	✓
<b>Proposed Remedial Action Plan</b>	Publish a public notice announcing the availability of the Proposed Remedial Action Plan for a 90-day public comment period. (If not combined, separate public notices will be provided for the Draft Remedial Investigation/comment period and the Remedial Objectives solicitation and public meeting.) Mail the same notice(s) to interested parties. The notice(s) will describe the proposed remedy and its estimated cost, and identify where the Proposed Remedial Action Plan, Remedial Investigation, and Feasibility Study Reports may be inspected.	A.R.S. § 49-287.04(B) A.R.S. § 49-289.03(A)(2) A.A.C. R18-16-301(C) A.A.C. R18-16-404(C)(1)(e) A.A.C. R18-16-408(A)	Proposed Remedial Action Plan public notice and comment: - East Grand Avenue, December 2020 - North Canal Plume, December 2020 - North Plume, June 2017 - West Osborn Complex: 2013; 2014 (revised); 2020 (revised)	✓	✓	✓	✓
<b>Record of Decision</b>	Publish a public notice announcing the availability of the Record of Decision and Responsiveness Summary for review.	A.R.S. § 49-287.04(G) A.A.C. R18-16-404(C)(1)(f) A.A.C. R18-16-410	Record of Decision public notice: - East Grand Avenue, to be determined - North Canal Plume, to be determined - North Plume, August 2020 - West Osborn Complex, to be determined			✓	
<b>Implementation of Remedy (Remedial Actions)</b>	Publish a public notice announcing a request for ADEQ to approve remedial actions at the site. The notice will provide the opportunity for a 30-day public comment period.	A.A.C. R18-16-301(C) A.A.C. R18-16-404(C)(1)(h) A.A.C. R18-16-413					
	Provide notice to the public and interested parties of a request for ADEQ to waive a regulatory requirement (permit) to complete remedial actions.	A.R.S. § 49-290 A.A.C. R18-16-404(C)(1)(l)					
	Provide notice to the public that fieldwork conducted to remove contaminants of concern may result in noise, light, odor, dust, or other adverse impacts.	A.A.C. R18-16-404(C)(1)(m)	Provided as field work dictates	✓	✓	✓	✓
	Provide notice to the public of a request for ADEQ to determine whether each of the Remedial Objectives for a site have been satisfied and will continue to be satisfied. The notice will provide the opportunity for a 30-day public comment period on the request.	A.A.C. R18-16-301(C) A.A.C. R18-16-404(C)(1)(n) A.A.C. R18-16-4-16(B)					

Community Involvement Action Summary							
WQARF Phase	ADEQ Community Involvement Activity	Statute (A.R.S.) and Rule (A.A.C) References	Activity to Date	Complete			
				East Grand Avenue	North Canal Plume	North Plume	West Osborn Complex
Operation & Maintenance	Publish a public notice announcing the availability of the Operation & Maintenance Plan for review and a 30-day public comment period. Mail the same notice to interested parties.	A.A.C. R18-16-301(C) A.A.C. R18-16-404(C)(1)(g) A.A.C. R18-16-411(E)					
Removal from WQARF Registry	Although not mandated by Arizona Statute or administrative code, ADEQ may publish a public notice upon the removal of the site from the WQARF Registry.	Not Applicable					
Any Phase	Publish a public notice announcing a request to ADEQ for a prospective purchaser agreement. The notice will provide the opportunity for a 30-day public comment period.	A.R.S. § 49-289.03(A)(3) A.A.C. R18-16-301(C)	Prospective Purchaser Agreement public notice and comment (Appendix H): - East Grand Avenue, February 2002 - North Canal Plume, none - North Plume, September 2012 (2), March 2004, October 2008 (2) - West Osborn Complex, none	✓		✓	
	Publish a public notice announcing the intention of ADEQ to enter into a settlement agreement with a responsible party. The notice will provide the opportunity for a 30-day public comment period.	A.R.S. § 49-289.03(A)(4) A.A.C. R18-16-301(C)	Settlement agreement public notice and comment (Appendix I): - East Grand Avenue, none - North Canal Plume, none - North Plume, consent decrees, 1993, 1999, 2017 - West Osborn Complex, consent decrees, 1992, 1996 (2)			✓	✓

## ***Community Involvement Techniques***

This section describes the specific activities and resources that ADEQ uses to communicate and engage with stakeholders and community members near the West Central Phoenix WQARF sites. ADEQ will use multiple techniques throughout the WQARF process.

ADEQ uses the following community involvement techniques:

1. Community Advisory Board (CAB): With assistance from ADEQ, the CAB has been conducting public meetings about the West Central Phoenix WQARF sites since June 2000. The CAB advises ADEQ on delivering site information and provides input on content. CAB members serve as an information resource for their community. Per Arizona Revised Statutes § 49-289.03, CAB meetings are open to the public and held at easily accessible locations. CAB meetings will be held to receive site briefings, progress reports and other pertinent information in response to site activities or a request from a community advisory board member or a city, town or county in which the site is located. CAB meetings may also be held virtually if requested. For a list of current CAB members, see Appendix E.
2. Local Print Media: ADEQ will publish all WQARF milestone public notices in the *Arizona Business Gazette*. The Arizona Newspaper Association maintains a database of all public notices published in major Arizona newspapers ([arizonapublicnotices.com](http://arizonapublicnotices.com)). For a list of other media outlets, see Appendix F.
3. U.S. Mail and Email Lists: ADEQ created U.S. Mail and email address lists to share updates on the West Central Phoenix WQARF sites. Anyone can join the site mailing list by contacting the ADEQ Community Involvement Coordinator or registering on GovDelivery ([public.govdelivery.com/accounts/AZDEQ/subscriber/new](http://public.govdelivery.com/accounts/AZDEQ/subscriber/new)).
4. ADEQ Website – ADEQ’s website provides visitors with three areas of information related to the site and is updated regularly:
  - Notices Page: contains WQARF site public notices and announces comment periods ([azdeq.gov/notices](http://azdeq.gov/notices)).
  - Events Page: includes information on WQARF site public meetings, including CAB meetings ([azdeq.gov/events](http://azdeq.gov/events)).



- Site Information Page: provides detailed site information and links to the site information repository:
    - East Grand Avenue: [azdeq.gov/wcp-east-grand](http://azdeq.gov/wcp-east-grand)
    - North Canal Plume: [azdeq.gov/wcp-north-canal-plume](http://azdeq.gov/wcp-north-canal-plume)
    - North Plume: [azdeq.gov/wcp-north-plume](http://azdeq.gov/wcp-north-plume)
    - West Osborn Complex: [azdeq.gov/wcp-west-osborn-complex](http://azdeq.gov/wcp-west-osborn-complex)
5. ADEQ Notice Board: Notices are displayed on the ADEQ Phoenix office’s lobby notice board.
  6. Public Meetings: In addition to CAB meetings, ADEQ may schedule public meetings or open houses as needed or requested. Examples include meetings with neighborhood and homeowner’s associations, schools, and community groups.
  7. Site Tours: The public may request site tours through the ADEQ Community Involvement Coordinator. Tours will be arranged in conjunction with the property owners and in compliance with current regulations.

ADEQ takes reasonable measures to provide access to community involvement activities to individuals with limited English proficiency and/or to those with disabilities. The community can request language interpretation, ASL interpretation, CART captioning services or disability accommodations through the ADEQ Title VI Nondiscrimination Coordinator (602-771-2288 or [Drago.Leonard@azdeq.gov](mailto:Drago.Leonard@azdeq.gov)).

The following table of Communication Techniques illustrates how these techniques have and will be used throughout the WQARF process for the West Central Phoenix WQARF sites.

Communication Techniques							
Communication Deliverable			Communication Recipients/Methods				
Type	Why	When	CAB Members	Interested Parties List	ADEQ Website	Local Print Media	ADEQ Notice Board
<b>Public Notice</b>	Provide notice of availability of milestone documents, comment periods, and requests for public input.	Per mandate (See Community Involvement Action table).	✓	✓	✓ <i>(site and calendar pages)</i>	✓ <i>(Arizona Business Gazette)</i>	✓
<b>CAB or Public Meeting Notice/Agenda</b>	Provide two-way communication about the status of site activities. The notice announces the meeting and provides the agenda.	Variable schedule based on level of site activity as scheduled by CAB and ADEQ (see Community Involvement Action table).	✓	✓	✓ <i>(site, calendar, and CAB history pages)</i>	Not Applicable	✓
<b>Technical Presentation</b>	Provide current information about site activity or related topics.	At CAB meetings or at specially requested public meetings.	✓	Not Applicable	✓ <i>(information repository or CAB history page)</i>	Not Applicable	Not Applicable
<b>Technical Milestone Document</b>	Provide current technical information about site investigation/remediation activities (e.g., Remedial Investigation, Feasibility Study, etc.)	According to the WQARF Process as documents are developed and become available.	✓	Not Applicable	✓ <i>(information repository)</i>	Not Applicable	Not Applicable
<b>Site Fact Sheet</b>	Provide current information about the site activity.	Published at the start of the Remedial Investigation and at specific milestones or other times as deemed appropriate by ADEQ and the CAB.	✓	✓	✓ <i>(information repository)</i>	Not Applicable	Not Applicable

Communication Techniques							
Communications Deliverable			Communications Recipients/Methods				
Type	Why	When	CAB Members	Interested Parties List	ADEQ Website	Local Print Media	ADEQ Notice Board
<b>Public Meeting to solicit Remedial Objectives</b>	Provide forum to solicit Remedial Objectives. (Note that this meeting may be conducted in conjunction with a CAB meeting.)	After release of Draft Remedial Investigation Report.	✓	✓	✓ <i>(site and calendar pages)</i>	✓ <i>(Arizona Business Gazette)</i>	✓
<b>Public notice announcing a prospective purchaser agreement</b>	Provide notice of availability and request comments.	Per mandate (see Community Involvement Action table).	✓	✓	✓ <i>(site and calendar pages)</i>	✓ (Newspaper of general circulation in Maricopa County)	Not Applicable
<b>Public notice announcing settlement agreement with a responsible party.</b>	Provide notice of availability and request comments.	Per mandate (see Community Involvement Action table).	✓	✓	✓ <i>(site and calendar pages)</i>	✓ (Newspaper of general circulation in Maricopa County)	Not Applicable
<b>Site Tour</b>	Provide walking or driving tour of the site to observe current site conditions and the surrounding community and environment.	If requested, and with cooperation of current property owners.	Contact ADEQ Community Involvement Coordinator.				

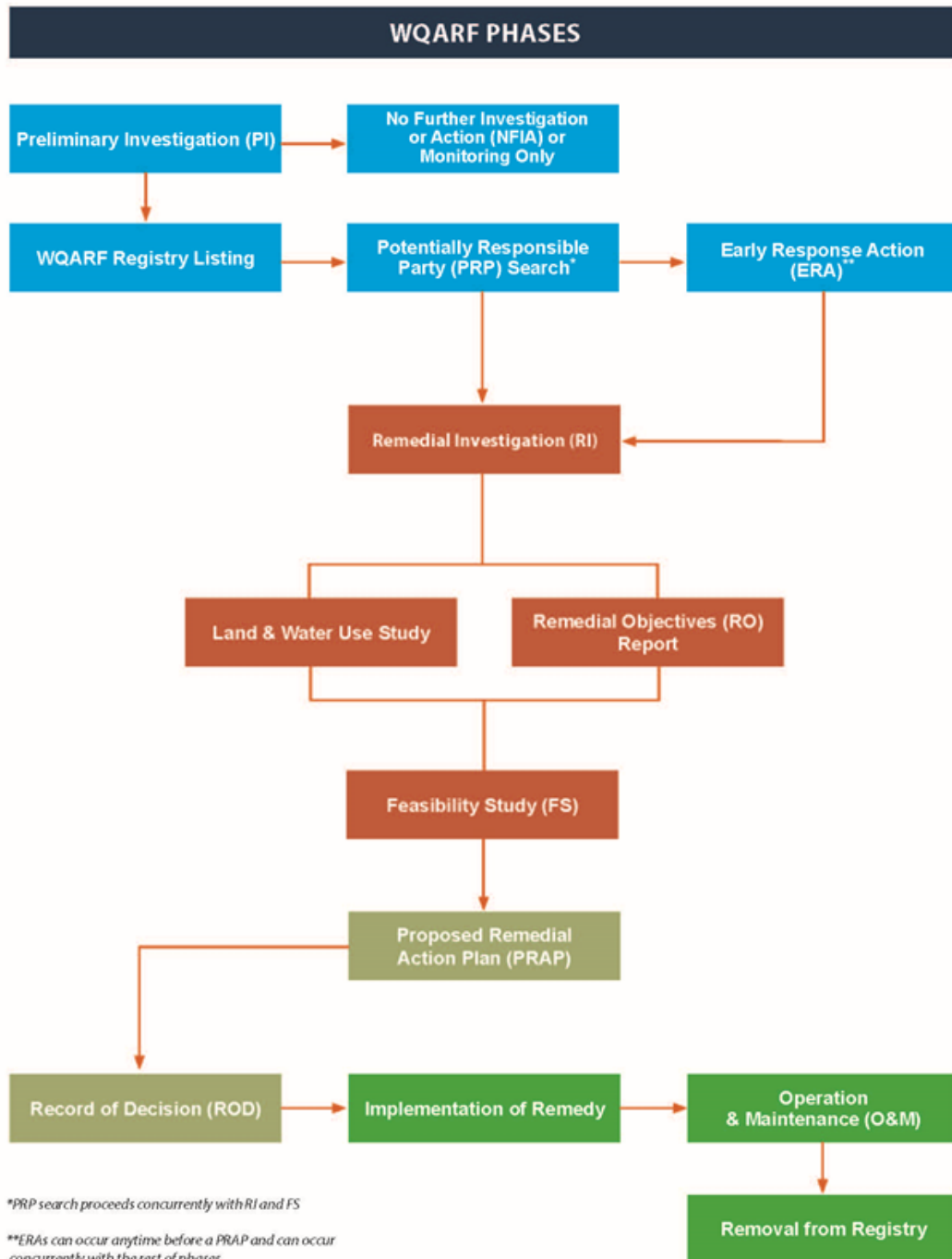
# **APPENDICES**

The following appendices provide additional resources to support community involvement for the West Central Phoenix WQARF sites:

- Appendix A: WQARF process flowchart
- Appendix B: History of major activities at the West Central Phoenix WQARF sites
- Appendix C: Targeted communities in the West Central Phoenix WQARF sites CIA
- Appendix D: Elected officials representing communities within the CIA
- Appendix E: West Central Phoenix CAB members
- Appendix F: Local media outlets in the area. All future public notices for the West Central Phoenix WQARF sites
- Appendix G: Related agencies
- Appendix H: Prospective purchaser agreements for property near West Central Phoenix WQARF sites
- Appendix I: Consent decree settlements related to West Central Phoenix WQARF sites

# Appendix A:

## WQARF Process Chart





## ***Appendix B:***

### **Site Histories**

#### **West Central Phoenix – East Grand Avenue**

1957–1970 Van Waters and Rogers (VW&R) operated near 27th Avenue and Osborn Road. Operations included warehousing and distribution of industrial, agricultural chemical products, upholstery supplies, and laundry and dry-cleaning supplies. VW&R operations were the primary source of contamination at the East Grand Avenue WQARF site.

1982–1989 In July 1982, volatile organic compounds (VOCs) were first detected in the groundwater in the West Central Phoenix area. The City of Phoenix detected trichloroethene (TCE) in four municipal public supply wells (Wells 70, 71, 151, and 152). The Arizona Department of Health Services, Salt River Project (SRP), and City of Phoenix confirmed the presence of VOCs in the groundwater with sampling conducted in 1983, 1985, and 1986. Groundwater from City of Phoenix Wells 70 and 71 contained the highest concentrations of TCE and, therefore, were immediately shut down. Wells 151 and 152 were monitored for VOC concentrations from 1982 until 1989. As a result of sampling conducted in February 1989, the City of Phoenix elected to take Wells 151 and 152 off line on March 7, 1989.

In 1987, the West Central Phoenix area was designated a WQARF Priority List site.

1993–2002 Remedial Investigation (RI) field activities were conducted between 1993 and 2002.

In 1997, ADEQ established the WQARF Registry, which replaced the Priority List. The East Grand Avenue site was placed on the WQARF Registry in April 1998 with a score of 26 out of a possible 120. The site score was reevaluated in 2000 and revised to 31 out of 120.

In January 2002, ADEQ entered into an agreement with Univar USA, Inc. (Univar), the parent company of VW&R, to conduct groundwater quality monitoring and a Feasibility Study (FS).

2003 Univar began conducting groundwater monitoring in March. Univar also installed a soil vapor extraction (SVE) system at the former VW&R facility to clean up contaminated soils.

2004 In January, Univar's SVE system became operational. In May, ADEQ issued the Draft RI Report, which focused on the former VW&R facility.

2006	ADEQ issued the Proposed Remedial Objectives (RO) Report for public comment in January and the Final RO Report in June. In July, ADEQ issued the Final RI report for the site.
2007	The total quantity of VOCs removed from the soil by the SVE system during 2007 was approximately 990 pounds (80 gallons).
2008	Two ADEQ monitoring wells located in a City of Phoenix right-of-way were added to the SVE system to increase the capture of VOCs.
2009	The SVE system continued to extract VOCs from the soils below the former VW&R facility, removing approximately 4 pounds of VOCs in the first 9 months of 2009. Groundwater sampling was conducted twice in 2009.
2010	The SVE system removed a monthly average of 2.5 pounds of VOCs from the soils below the former VW&R facility. Groundwater sampling was conducted twice in 2010.
2011	The SVE system removed a monthly average of 1.4 pounds of VOCs. Groundwater sampling was conducted twice in 2011.
2012	The SVE system removed a monthly average of 1 pound of VOCs. Groundwater sampling was conducted once in 2012.
2013	In September, Univar shut down the SVE system due to insufficient return of VOCs. Groundwater sampling was conducted twice in 2013.
2014	Groundwater sampling was conducted twice in 2014.
2015 -2019	Working party continues to work on the FS.
2020 -2021	ADEQ approved and publicly released the FS in July 2020. ADEQ released the Proposed Remedial Action Plan (PRAP) for public review in December 2020. After accepting PRAP public comments through March 2021, ADEQ began working on the Record of Decision (ROD) for the site.

## West Central Phoenix – North Canal Plume

- 1952—1973 Southwest Metal Industries, Inc. (Southwest Metal) operated near 36th Avenue and Clarendon Avenue from 1952 to 1973. Operations included constructing sand casts to form magnesium, aluminum, and brass castings. ADEQ has identified Southwest Metal as a source of contamination at the North Canal Plume WQARF site.
- 1956—1984 Osborn Products, Inc. (Osborn Products) operated near 36th Avenue and Clarendon Avenue from 1956 to 1984. Operations included chrome plating, degreasing metal parts, and machining parts to specification for the aerospace industry. ADEQ has identified Osborn Products as a source of contamination at the North Canal Plume WQARF site.
- 1963—2013 Precise Metal Products Co. (Precise) and four subsidiaries, Paraflex Machine & Tool Co. (Paraflex), Precision Marking Co., Paint Spray, Inc., and Perigee Metal Spinning Co., all operated at a facility near 39th Avenue and Clarendon Avenue from 1963 to 2013. Operations included metal fabrication, machining, and finishing for the aerospace, aircraft, and medical sectors. ADEQ has identified Precise and its subsidiaries as sources of contamination at the North Canal Plume WQARF site.
- 1977—1989 Magic Metals Custom Plating (Magic Metals) operated near 36th Avenue and Whitton Avenue from 1977 to 1989. Operations included electroplating for automobiles, custom restorations, industrial parts, and antiques. ADEQ has identified Magic Metals as a source of contamination at the North Canal Plume WQARF site.
- 1982—1989 VOCs were first detected in groundwater in the West Central Phoenix area in July 1982. The City of Phoenix detected TCE in four municipal public supply wells (Wells 70, 71, 151, and 152). The Arizona Department of Health Services, SRP, and City of Phoenix confirmed the presence of VOCs in the groundwater with sampling conducted in 1983, 1985, and 1986. Groundwater from City of Phoenix Wells 70 and 71 contained the highest concentrations of TCE and were immediately shut down. From 1982 until 1989, Wells 151 and 152 were monitored for VOC concentrations. Based on the results of sampling conducted in February 1989, the City of Phoenix elected to take Wells 151 and 152 off-line on March 7, 1989.
- 1987—2000 In 1987, the West Central Phoenix area was designated a WQARF Priority List site. In 1997, ADEQ established the WQARF Registry, which replaced the Priority List. The North Canal Plume site was placed on the WQARF Registry in June 1998 with a score of 22 out of a possible 120. The site was reevaluated in 2000 and given a revised score of 27 out of 120.
- 2004 In September, an Early Response Action Evaluation Report was prepared for ADEQ. The evaluation examined limited soil, soil gas, and groundwater samples from Osborn

Products, Magic Metals, Precise/Paraflex, and Southwest Metal. Additional investigation was recommended for each site.

- 2005 In August, ADEQ issued an Interim RI Report documenting environmental investigation activities at the WQARF site.
- 2006 In October, a second Early Response Action Evaluation Report was prepared for ADEQ. The evaluation examined limited soil, soil gas, and groundwater samples from Pyramid Industries, Giltspur Exhibits, Triad Trucking Company, Redburn Tire Company, Osborn Products, and Southwest Metal. Additional investigation was recommended for some of the facilities.
- 2007 In September, an aquifer test was carried out at the former Southwest Metal facility to help determine potential groundwater treatment options for the regional groundwater plume. Additionally, ADEQ conducted an SVE pilot test in February at the former Osborn Products facility. Based on the concentrations from the pilot test, the results did not merit a soil remediation system.
- 2008 Soil vapor samples were taken across two areas at the site to aid in the placement of new monitoring wells.
- 2009 Work on the Draft RI Report continued with the collection of information needed to compile a Land and Water Use Report. Questionnaires were sent to stakeholders, property owners, and water providers.
- 2013 Groundwater monitoring and sampling were conducted. Depth to water was measured in each well, and groundwater samples were collected and analyzed for VOCs, chlorinated hydrocarbons, and total chromium. Results indicated that the groundwater contaminant plume could be moving in a southern direction. The ADEQ Underground Storage Tank (UST) Program, State Lead Unit, installed 26 wells and an SVE/air sparge (AS) remediation system at the former Triad Trucking property at 3883/4015 North 36<sup>th</sup> Avenue.
- 2014 In February, ADEQ conducted groundwater sampling. In May and June, ADEQ monitored groundwater levels to study the effects of the pumping of SRP wells. ADEQ also conducted a passive soil gas survey along 33rd Avenue.

The ADEQ UST Program, State Lead Unit, shut down the SVE/AS remediation system to test for contaminant rebound. Data indicated that TCE concentrations in the vicinity of the former Triad Trucking property declined and that the plume could be moving in a southern direction. Additionally, pumping of the Salt River Project wells appeared to affect water levels.

2017	The Draft RI went out for public comments, ROs were solicited and the Final RI Report was issued in December.
2018	In 2018, an SVE pilot study was conducted in the East Plume as part of an ERA.
2019	An SVE system was installed in the East Plume and began operating in early 2019. Revised ROs were issued for public comment.
2020-2021	ADEQ released the site's revised RO report and FS in January 2020. In December, ADEQ released the PRAP for public comment. ADEQ began working on the ROD for the site.

## **West Central Phoenix – North Plume**

1967–2011	F&B Mfg. Co. (F&B) operated near 39th Avenue and Montecito Avenue from 1967 to 2011. F&B manufactured metal aircraft and spacecraft parts, and performed sheet metal forming and assembly. PCE was known to be used as a degreasing solvent at the facility until approximately October 1987, when the degreasing solvent was changed to 1,1,1-trichloroethane (TCA). In April 1991 ADEQ discovered that PCE had leaked from F&B's degreaser into the soil under the building. ADEQ has identified F&B as a source of contamination at the North Plume WQARF site.
1969–Present	Hill Brothers Chemical Company (Hill Brothers) has operated near 42nd Avenue and Turney Avenue from 1969 to the present. The Hill Brothers facility is a chemical distribution facility. Chemicals including acids, bases, solvents, chlorine, and concrete additives are stored in on-site aboveground storage tanks prior to transfer into containers for distribution. ADEQ has identified Hill Brothers as a source of contamination at the North Plume WQARF site.
1977–1994	Pyramid Industries, Inc. (Pyramid) operated near 39th Avenue and Montecito Avenue, across from the F&B facility, from 1977 to 1994. Pyramid manufactured telephone and television cable riser boxes. Operations at the facility required the use of acids, caustics, heavy metals, paints, and methylene chloride. Several suspected sources of contamination have been identified at the Pyramid facility, including the loading dock/dry well, paint room, and former hook cleaning areas. ADEQ has identified Pyramid as a source of contamination at the North Plume WQARF site.
1982–1989	In July 1982, VOCs were first detected in the groundwater in the West Central Phoenix area. The City of Phoenix detected TCE in four municipal public supply wells (Wells 70, 71, 151, and 152). The Arizona Department of Health Services, Salt River Project, and City of Phoenix confirmed the presence of VOCs in the groundwater with sampling conducted in 1983, 1985, and 1986. Groundwater from City of Phoenix Wells 70 and 71 contained the



highest concentrations of TCE and were immediately shut down. Wells 151 and 152 were monitored for VOC concentrations from 1982 until 1989. Based on the results of sampling conducted in February 1989, the City of Phoenix elected to take Wells 151 and 152 off-line on March 7, 1989.

1982–1993	The former Rinchem Company, Inc. (Rinchem) facility operated near 41st Avenue and Turney Avenue. Rinchem operated a chemical warehouse and distribution facility that handled solvents, oils, and fuels. Several suspected sources of contamination were identified at the Rinchem facility, including the former repackaging area and tank farm. ADEQ has identified Rinchem as a source of contamination at the North Plume WQARF site.
1987	The West Central Phoenix area was designated a WQARF Priority List site.
1992	ADEQ entered into a consent decree with F&B to conduct a RI/FS; remediate on-site, PCE-contaminated soil; reimburse past ADEQ costs; and pay oversight costs.
1995–1998	F&B was financially unable to fulfill the requirements of the consent decree.
1997–1998	In 1997, ADEQ established the WQARF Registry, which replaced the WQARF Priority List. In April 1998 the North Plume site was placed on the WQARF Registry with a score of 50 out of a possible 120. The site was reevaluated in 2000 and given a revised score of 55 out of 120.
1998–1999	ADEQ and F&B negotiated a new consent decree, which was approved by the U.S. District Court in August 1999. Under the new consent decree, ADEQ would complete the Remedial Investigation/Feasibility Study and conduct remediation effort at the facility. In 1999, ADEQ and F&B entered into a financial hardship consent decree in federal court. F&B was required to make annual payments for a period of time in amounts calculated as percentages of net sales.
2000–2001	ADEQ removed approximately 210 cubic yards of soil beneath the F&B vapor degreaser during excavations in July 2000 and September 2001.
2001–2006	ADEQ operated an SVE system at the F&B facility beginning in August 2001 to further remediate PCE contamination beneath the vapor degreaser. As of December 2006, over 41,000 pounds of PCE had been removed from the source area by the SVE system.
2006	In August, ADEQ issued the Draft RI Report. Groundwater samples and water level measurements were collected in September.

2007	ADEQ developed a groundwater risk model with information available from the former Rinchem facility. Based upon the results of the model, ADEQ determined that the concentrations of VOCs in the soil did not merit the placement of a remedial system.
2008	<p>Three new wells were installed at the site. One well was the result of a prospective purchaser agreement with the State of Arizona. In a public benefit arrangement, the new well was installed in the western portion of the project area. The other two wells were installed in an effort to evaluate the potential to capture and treat contaminated groundwater.</p> <p>Hill Brothers installed an SVE treatment system at its facility to remediate potentially contaminated soils.</p>
2009	The SVE treatment systems continued to remove VOCs from the soil and prevent the VOCs from becoming potential contaminants in the groundwater at the site.
2010	The SVE system at F&B was shut down during the first quarter of 2010 because of high moisture content in the airstream. The system was restarted in April. The SVE system at Hill Brothers was shut down and dismantled. ADEQ granted a No Further Action (NFA) request pursuant to Arizona Revised Statutes (A.R.S.) § 49-287.01 for soils underlying the Hill Brothers facility.
2011–2012	The SVE system at F&B was shut down in February of 2011 and 2012 because of high moisture content in the airstream. The system was restarted in April of both years.
2013	Three new SVE wells were installed and connected to the existing SVE system at F&B. This SVE system was shut down at the end of January because of high moisture content in the airstream. The system was restarted at the end of April. Groundwater monitoring and sampling was conducted in March and September. Groundwater elevations were measured in June and December.
2014	The F&B SVE system was shut down at the end of December due to high moisture content in the airstream. The system was restarted at the end of March. The SVE system was modified in June to more efficiently remove moisture from the air stream and to allow the system to operate year-round. The granular activated carbon filters were changed out in June. Groundwater monitoring and sampling was conducted in March, and groundwater elevations were measured in June.
2016-2017	The FS was completed in June 2016 with the Proposed Remedial Action Plan (PRAP) out for public comment in June 2017.

2018	ADEQ operated the SVE system, continued enhanced reduction dechlorination (ERD) injections, and conducted groundwater monitoring activities at the site.
2019-2020	The Record of Decision (ROD) was completed in November 2019 and was publicly released in August 2020. The Selected Remedy includes SVE, ERD, and MNA. The remedy is currently being implemented in accordance with the ROD.
2021	The Selected Remedies, including SVE, ERD, and MNA, were implemented at the Site. In addition, a heat injection SVE optimization pilot study was implemented in April.

## **West Central Phoenix – West Osborn Complex**

1950–1970	The West Osborn Complex (WOC) facility was originally one large property (about 15 acres) located near 35th Avenue and Osborn Road. From the late 1950s to the mid-1970s, companies at the property manufactured electronic components. These businesses used TCE and other chemicals in the production and cleaning process. Large quantities of TCE and other wastes were disposed of in septic tanks and seepage pits at the WOC property from the late 1950s until the late 1960s. TCE may also have been dumped onto the ground surface.
1982–1989	VOCs were first detected in the groundwater in the West Central Phoenix area in July 1982. The City of Phoenix detected TCE in four municipal public supply wells (COP wells 70, 71, 151, and 152). The Arizona Department of Health Services, Salt River Project, and City of Phoenix confirmed the presence of VOCs in the groundwater with sampling conducted in 1983, 1985, and 1986. Groundwater from City of Phoenix Wells 70 and 71 contained the highest concentrations of TCE and were immediately shut down. From 1982 to 1989, wells 151 and 152 were monitored for VOC concentrations. Based on the results of sampling conducted in February 1989, the City of Phoenix elected to take wells 151 and 152 off-line on March 7, 1989.
1987	The West Central Phoenix area was designated a WQARF Priority List site.
1996	United Industrial Corporation (United), one of the parties responsible for contamination at the WOC, entered into a consent decree with ADEQ in U.S. District Court, in which United agreed to conduct the RI and FS for the site and to pay ADEQ past and future oversight costs.
1997–1998	ADEQ established the WQARF Registry, which replaced the WQARF Priority List. The WOC site was placed on the WQARF Registry with a score of 47 out of a possible 120.
1999–2002	From August 1999 through October 2002, United operated an SVE system to remediate TCE contaminated soil beneath the WOC property.

2004	United completed the soil cleanup at the property and permanently shut down the SVE system in March. In July, United abandoned an irrigation well that was thought to be acting as a conduit from the upper to the lower aquifer and leading to the contamination found in the lower aquifer at the WOC. In August, ADEQ issued the Draft RI Report. A Community Advisory Board (CAB) meeting was held in November to discuss the Draft RI Report and obtain input on ROs for the site.
2005	In April, ADEQ issued the Proposed RO Report. After receiving comments from the public, ADEQ issued the Final RO Report in May. In June, ADEQ approved United's FS Work Plan. United installed five additional monitoring wells as part of the FS. In July, a notice was issued to the public indicating the availability of the Final RI Report, which incorporated the Final RO Report. In August, a groundwater report documenting the installation and sampling of the new monitoring wells was submitted to ADEQ.
2006	United conducted the FS to evaluate specific remedial measures and strategies required to meet the ROs for groundwater. In June, as part of the FS, United installed additional monitoring wells to further define the extent of shallow groundwater contamination emanating from the WOC property. These new wells showed concentrations of TCE above the AWQS limit of 5.0 micrograms per liter.
2007	ADEQ and United agreed that the deep aquifer and the shallow aquifer needed to be further characterized and remediated separately because recent sampling had indicated that the shallow groundwater plume had migrated further south than anticipated. The two plumes became known as the Shallow Groundwater System (SGWS) plume and the Lower Sand and Gravel Subunit (LSGS) plume. In August, ADEQ approved an addendum to the FS Work Plan for the placement of new groundwater monitoring wells. Drilling activities were initiated in September. Results from these wells were incorporated into the FS for the SGWS plume.
2008–2011	United, which was bought by Textron Systems Corporation in 2007, continued to monitor groundwater quality at the site in both the shallow and deep contaminated aquifers below the former WOC facility. Monitoring wells in both the shallow and deep aquifers were sampled twice each year.
2012	In January, ADEQ approved the FS Report for the SGWS plume. In May, ADEQ approved the FS Report for the LSGS.
2013	ADEQ completed PRAPs for the SGWS plume and the LSGS plume. The proposed remedial action for the shallow groundwater system plume was the pumping and treating of groundwater in conjunction with monitored natural attenuation. Similarly, the proposed remedial action for the lower sand and gravel subunit was monitored natural attenuation.

ADEQ monitored and sampled monitoring wells in the deep aquifer in April and in the shallow and deep aquifers in October.

- 2014 ADEQ modified the PRAPs to address public comments and updated the documents based on the most recent groundwater sampling data. In March, ADEQ monitored and sampled monitoring wells in the shallow and deep aquifers, and in May, ADEQ conducted vertical profiling in three deep aquifer wells. In June, ADEQ conducted limited rehabilitation activities at City of Phoenix wells COP-70 and COP-71.
- 2017 – 2019 An SVE pilot test was conducted at the former Unitek property in 2017. Additional monitoring wells were installed to fill data gaps to revise the PRAP.
- 2020 – 2021 In July 2020, ADEQ completed a revised PRAP proposing remedies for both groundwater plumes at the site. ADEQ began working on the ROD for the site.

## ***Appendix C:***

### ***Targeted Communities***

The following lists identify neighborhood associations, schools, and vulnerable population centers near the West Central Phoenix WQARF sites CIA.

#### ***Neighborhood Associations<sup>2</sup>***

<b>Amigos Block Watch</b> <a href="http://nsdonline.phoenix.gov/NeighborhoodOrgs/Details/0969">nsdonline.phoenix.gov/NeighborhoodOrgs/Details/0969</a>	602-573-7754 <a href="mailto:amigosblockwatch@yahoo.com">amigosblockwatch@yahoo.com</a>
<b>Ashland Encanto Estates 3 Neighborhood Association</b> <a href="http://nsdonline.phoenix.gov/NeighborhoodOrgs/Details/1053">nsdonline.phoenix.gov/NeighborhoodOrgs/Details/1053</a>	No phone number <a href="mailto:kathycalc@gmail.com">kathycalc@gmail.com</a>
<b>Cactus Park Community Alliance</b> <a href="http://nsdonline.phoenix.gov/NeighborhoodOrgs/Details/1248">nsdonline.phoenix.gov/NeighborhoodOrgs/Details/1248</a>	No phone number <a href="mailto:communityinfo@cpcaaz.org">communityinfo@cpcaaz.org</a>
<b>Cordova Neighborhood Association</b> <a href="http://nsdonline.phoenix.gov/NeighborhoodOrgs/Details/0268">nsdonline.phoenix.gov/NeighborhoodOrgs/Details/0268</a>	602-999-5733 <a href="mailto:cordova.neighborhood@gmail.com">cordova.neighborhood@gmail.com</a>
<b>Granada Neighborhood Partnership</b> <a href="http://nsdonline.phoenix.gov/NeighborhoodOrgs/Details/2585">nsdonline.phoenix.gov/NeighborhoodOrgs/Details/2585</a>	No phone number <a href="mailto:adamlopezfalk@gmail.com">adamlopezfalk@gmail.com</a>
<b>Marivue Park</b> <a href="http://nsdonline.phoenix.gov/NeighborhoodOrgs/Details/1634">nsdonline.phoenix.gov/NeighborhoodOrgs/Details/1634</a>	No phone number <a href="mailto:Nveach3811@aol.com">Nveach3811@aol.com</a>
<b>Maryvale Business Alliance</b> <a href="http://nsdonline.phoenix.gov/NeighborhoodOrgs/Details/3121">nsdonline.phoenix.gov/NeighborhoodOrgs/Details/3121</a>	602-632-6308 <a href="mailto:1djnc1@gmail.com">1djnc1@gmail.com</a>
<b>Maryvale Estrella Mountain Community Alliance</b> <a href="http://nsdonline.phoenix.gov/NeighborhoodOrgs/Details/3067">nsdonline.phoenix.gov/NeighborhoodOrgs/Details/3067</a>	602-488-2933 <a href="mailto:jennifer.rouse@memca.org">jennifer.rouse@memca.org</a>
<b>Maryvale U.N.I.T.E.</b> <a href="http://nsdonline.phoenix.gov/NeighborhoodOrgs/Details/0250">nsdonline.phoenix.gov/NeighborhoodOrgs/Details/0250</a>	623-848-1334 <a href="mailto:azdancer10@cox.net">azdancer10@cox.net</a>

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<sup>2</sup> For updated neighborhood association information, visit the City of Phoenix Neighborhood Services Department: [phoenix.gov/nsd](http://phoenix.gov/nsd).

## ***Neighborhood Associations (continued)***

### **McKinley Block Watch**

[nsdonline.phoenix.gov/NeighborhoodOrgs/Details/1126](http://nsdonline.phoenix.gov/NeighborhoodOrgs/Details/1126)

No phone number

[Jimarita07@gmail.com](mailto:Jimarita07@gmail.com)

### **North 58th Ave. Block Watch**

[nsdonline.phoenix.gov/NeighborhoodOrgs/Details/1911](http://nsdonline.phoenix.gov/NeighborhoodOrgs/Details/1911)

602-803-1335

[wftruett@gmail.com](mailto:wftruett@gmail.com)

### **Osborn Block Watch**

[nsdonline.phoenix.gov/NeighborhoodOrgs/Details/2512](http://nsdonline.phoenix.gov/NeighborhoodOrgs/Details/2512)

No phone number

[osbornblockwatch@gmail.com](mailto:osbornblockwatch@gmail.com)

### **P.R.I.D.E., Inc.**

[nsdonline.phoenix.gov/NeighborhoodOrgs/Details/0190](http://nsdonline.phoenix.gov/NeighborhoodOrgs/Details/0190)

No phone number

No email

### **U.P.E.M. (Unidos Padres, Estudiantes y Maestros)**

[nsdonline.phoenix.gov/NeighborhoodOrgs/Details/1952](http://nsdonline.phoenix.gov/NeighborhoodOrgs/Details/1952)

602-455-6605

[Sls\\_slv@yahoo.com](mailto:Sls_slv@yahoo.com)



## ***Schools***

School districts in the West Central Phoenix WQARF sites CIA include Alhambra Elementary School District, Isaac Elementary School District, and Phoenix Union High School District. The following list includes public and private schools within the CIA.

**Alhambra Traditional School**

3736 West Osborn Road, Phoenix, AZ 85019

602-336-2920

[alhambraesd.org/ats](http://alhambraesd.org/ats)

**Glenn L. Downs Social Sciences Academy**

3600 N. 47th Ave, Phoenix, AZ 85031

623-691-4220

[csd83.org/Downs](http://csd83.org/Downs)

**James W. Rice Elementary School**

4530 W Campbell Ave, Phoenix, AZ 85031

623-848-8420

[alhambraesd.org/jwr](http://alhambraesd.org/jwr)

**Joseph Zito Elementary School**

4525 West Encanto Boulevard, Phoenix, AZ 85035

602-442-2500

[isaacschools.org/o/jzes](http://isaacschools.org/o/jzes)

**Justine Spitalny Elementary School**

3201 North 46th Drive, Phoenix, AZ 85031

623-691-4400

[csd83.org/Spitalny](http://csd83.org/Spitalny)

**Mitchell Elementary School**

1700 North 41<sup>st</sup> Avenue, Phoenix, AZ 85009

602-442-2600

[isaacschools.org/o/mes](http://isaacschools.org/o/mes)

**P.T. Coe Elementary School**

3801 West Roanoke Avenue, Phoenix, AZ 85009

602-442-2400

[isaacschools.org/o/ptces](http://isaacschools.org/o/ptces)

**Pueblo Del Sol (K-8)**

3449 North 39th Avenue, Phoenix, AZ 85019

602-455-6900

[isaacschools.org/o/pds](http://isaacschools.org/o/pds)

**St. Vincent de Paul Catholic School**

3130 North 51st Avenue, Phoenix, AZ 85031

623-247-8595

[svdpschool.org](http://svdpschool.org)

## ***Vulnerable Population Centers***

ADEQ considers day cares, senior living homes, and some medical facilities as vulnerable population centers due to the age of clients served. Children under age five and adults above age 65 are considered more vulnerable to the potential health effects associated with exposure to environmental contamination.

### **A Kiddie's Kingdom**

2318 N 35th Avenue, Phoenix, AZ 85009

602-278-1513

[akiddieskingdomcare.com](http://akiddieskingdomcare.com)

### **Alhambra Preschool Academy**

4730 W Campbell Ave, Phoenix, AZ 85031

602-246-5155

[alhambraesd.org/preschool](http://alhambraesd.org/preschool)

### **American Childcare Center**

5220 W Indian School Rd, Phoenix, AZ 85031

602-233-2218

[americanchildcarecenters.net](http://americanchildcarecenters.net)

### **Children's Campus**

2830 N 43rd Avenue, Phoenix, AZ 85009

602-638-0828

[childrencampus.net](http://childrencampus.net)

### **Encanto Palms Assisted Living**

3901 W Encanto Boulevard, Phoenix, AZ 85009

602-352-0000

[windsorencantopalms.com](http://windsorencantopalms.com)

### **Head Start—Mitchell Elementary School**

1700 N 41<sup>st</sup> Avenue, Phoenix, AZ 85009

602-442-2600

[isaacschools.org/o/mes](http://isaacschools.org/o/mes)

### **Robin's Nest Child Care**

3849 W Encanto Boulevard, Phoenix, AZ 85009

623-934-1172

[facebook.com/robinsnest3420](https://facebook.com/robinsnest3420)

### **St. Vincent de Paul Pre-School**

3130 North 51st Avenue, Phoenix, AZ 85031

623-247-8595

[svdpschool.org](http://svdpschool.org)

## ***Appendix D:***

### **Elected Officials**

Phoenix City Council	Maricopa Board of Supervisors	State Representatives	State Senators
200 W Jefferson St Phoenix, AZ 85003  <a href="http://phoenix.gov/mayorcouncil">phoenix.gov/mayorcouncil</a>	301 W Jefferson St 10th Floor Phoenix, AZ 85003  <a href="http://maricopa.gov/224/Board-of-Supervisors">maricopa.gov/224/Board-of-Supervisors</a>	1700 W. Washington St Phoenix, AZ 85007  <a href="http://azleg.gov/memberroster">azleg.gov/memberroster</a>	1700 W. Washington St Phoenix, AZ 85007  <a href="http://azleg.gov/memberroster">azleg.gov/memberroster</a>
<b>Mayor</b> Kate Gallego 602-262-7111 <a href="mailto:mayor.gallego@phoenix.gov">mayor.gallego@phoenix.gov</a>	<b>District 5 Supervisor</b> Steve Gallardo 602-506-7092 <a href="mailto:district5@mail.maricopa.gov">district5@mail.maricopa.gov</a>	<b>District 19 Representative</b> Diego Espinoza Room 338 602-926-3134 <a href="mailto:despinoza@azleg.gov">despinoza@azleg.gov</a>	<b>District 19 Senator</b> Lupe Contreras Room 305 602-926-5284 <a href="mailto:lcontreras@azleg.gov">lcontreras@azleg.gov</a>
<b>Vice Mayor</b> Carlos Garcia 602-262-7493 <a href="mailto:council.district.8@phoenix.gov">council.district.8@phoenix.gov</a>		<b>District 19 Representative</b> Lorenzo Sierra Room 121 602-926-3211 <a href="mailto:lsierra@azdeq.gov">lsierra@azdeq.gov</a>	
<b>District 4 Councilmember</b> Laura Pastor 602-262-7447 <a href="mailto:council.district.4@phoenix.gov">council.district.4@phoenix.gov</a>		<b>District 29 Representative</b> Richard Andrade Room 337 602-926-3130 <a href="mailto:randrade@azleg.gov">randrade@azleg.gov</a>	<b>District 29 Senator</b> Martin Quezada Room 312 602-926-5911 <a href="mailto:mquezada@azleg.gov">mquezada@azleg.gov</a>
<b>District 5 Councilmember</b> Betty Guardado 602-262-7446 <a href="mailto:council.district.5@phoenix.gov">council.district.5@phoenix.gov</a>		<b>District 29 Representative</b> César Chávez Room 333 602-926-4862 <a href="mailto:cchavez@azleg.gov">cchavez@azleg.gov</a>	
<b>District 7 Councilmember</b> Yassamin Ansari 602-262-7492 <a href="mailto:council.district.7@phoenix.gov">council.district.7@phoenix.gov</a>		<b>District 30 Representative</b> Robert Meza Room 339 602-926-3425 <a href="mailto:rmeza@azleg.gov">rmeza@azleg.gov</a>	<b>District 30 Senator</b> Raquel Terán Room 315 602-926-3308 <a href="mailto:rteran@azleg.gov">rteran@azleg.gov</a>
		<b>District 30 Representative</b> Christian Solorio Room 116 602-926-4864 <a href="mailto:csolorio@azleg.gov">csolorio@azleg.gov</a>	

## ***Appendix E:***

### **Community Advisory Board**

The following table lists the West Central Phoenix Water Quality Assurance Revolving Fund (WQARF) sites Community Advisory Board (CAB) members as of January 2022.

Community Advisory Board Members	
<b>Barbara Keene</b> (co-chair) 602-542-0853 <a href="mailto:Barbara.Keene@att.net">Barbara.Keene@att.net</a>	<b>Elizabeth Zima</b> (co-chair) 602-256-3447 <a href="mailto:Elizabeth.Zima@phoenix.gov">Elizabeth.Zima@phoenix.gov</a>
<b>Rosa Pastrana</b> 602-802-6633 <a href="mailto:osbornblockwatch@gmail.com">osbornblockwatch@gmail.com</a>	<b>David Nazione</b> 602-326-2388 <a href="mailto:dnazione@cox.net">dnazione@cox.net</a>
<b>Mary Glenn</b> 928-533-8526 <a href="mailto:Mary.Glenn@ahoo.com">Mary.Glenn@ahoo.com</a>	

## ***Appendix F:***

### ***Media Outlets***

The community may use any media outlets to share information on the West Central Phoenix WQARF sites. ADEQ will publish all site-related public notices in the *Arizona Business Gazette*.

#### ***Newspapers and Magazines***

For a current list of metro Phoenix newspapers and magazines, visit [abyznewslinks.com/uniteazph.htm](http://abyznewslinks.com/uniteazph.htm).

##### **Arizona Business Gazette**

[arizonapublicnotices.com](http://arizonapublicnotices.com)

Print only; notices published online by Arizona Newspaper Association.

##### **The Arizona Republic**

[azcentral.com](http://azcentral.com)

##### **Phoenix New Times**

[phoenixnewtimes.com](http://phoenixnewtimes.com)

##### **La Voz**

[azcentral.com/lavoz](http://azcentral.com/lavoz)

#### ***Radio***

The following stations focus on local and national news in English and Spanish. For a current list of all Phoenix radio stations, visit [radio-locator.com](http://radio-locator.com).

##### **KTAR (92.3 FM)**

[ktar.com](http://ktar.com)

##### **KJZZ (91.5 FM)**

[kjzz.org](http://kjzz.org)

##### **KFYI (550 AM)**

[kfyi.iheart.com](http://kfyi.iheart.com)

##### **KNAI (101.9 FM)**

[campesina.com](http://campesina.com)

##### **KNUV (1190 AM / 107.5 FM)**

[onda1190am.com](http://onda1190am.com)

## ***Television***

The following channels focus on local and national news in English and Spanish. For a current list of Phoenix television channels, visit [abyznewslinks.com/uniteazph.htm](http://abyznewslinks.com/uniteazph.htm).

<b>KAET</b> (PBS)	<a href="http://azpbs.org">azpbs.org</a>
<b>KNXV</b> (ABC)	<a href="http://abc15.com">abc15.com</a>
<b>KPHO</b> (CBS)	<a href="http://azfamily.com">azfamily.com</a>
<b>KSAZ</b> (FOX)	<a href="http://fox10phoenix.com">fox10phoenix.com</a>
<b>KTAZ</b> (Telemundo)	<a href="http://telemundoarizona.com">telemundoarizona.com</a>
<b>KTVK</b> (3TV)	<a href="http://azfamily.com">azfamily.com</a>
<b>KTVW</b> (Univision)	<a href="http://univision.com/local/arizona-ktvw">univision.com/local/arizona-ktvw</a>

## ***Appendix G:***

### **Related Agencies**

The following list presents additional agencies that may be used by the public to address concerns related to the West Central Phoenix WQARF sites.

#### ***State of Arizona***

**Department of Health Services:** Environmental Health  
150 N 18th Ave Phoenix, AZ 85007

602-542-1025

[azdhs.gov/environmentalhealth](http://azdhs.gov/environmentalhealth)

**Department of Water Resources:** Permitting and Wells  
1110 W Washington St, Ste 310, Phoenix, AZ 85007

602-771-8527

[new.azwater.gov/permitting-wells](http://new.azwater.gov/permitting-wells)

#### ***Other***

**Agency for Toxic Substances and Disease Registry – Region 9**  
75 Hawthorne St, Ste 9410 M/S:HHS-1, San Francisco, CA 94105

800-232-4636

[atsdr.cdc.gov](http://atsdr.cdc.gov)

**Arizona Association of Realtors:** Real Estate Seller Disclosures  
255 E Osborn Rd #200, Phoenix, AZ 85012

602-248-7787

[aaronline.com/wp-content/uploads/2017/10/Residential-Sellers-Property-Disclosure- Statement-SPDS\\_REV\\_01Oct2017.pdf](http://aaronline.com/wp-content/uploads/2017/10/Residential-Sellers-Property-Disclosure-Statement-SPDS_REV_01Oct2017.pdf)

## ***Appendix H:***

### **Prospective Purchaser Agreements**

The following table presents a list of parties that have requested and received prospective purchaser agreements from the Arizona Department of Environmental Quality (ADEQ) for properties in or around the West Central Phoenix Water Quality Assurance Revolving Fund (WQARF) sites as of January 2022.

<b>Purchaser Name</b>	<b>Property Location</b>	<b>Public Notice Date</b>	<b>Effective Date</b>
Bakala Investment Properties, L.L.C	2930 W. Osborn Road, Phoenix, AZ 85017 (East Grand Avenue)	2/08/2002	3/15/2002
F&B Mfg., LLC	4245 N. 40 <sup>th</sup> Avenue, Phoenix, AZ 85019 (North Plume)	09/13/2012	10/25/2012
Harrison Development	4115 W. Turney Avenue, Phoenix, AZ 85019 (North Plume)	3/12/2004	5/7/2004
F&B Mfg LLC	4316 N. 39 <sup>th</sup> Avenue, Phoenix, AZ 85019 (North Plume)	9/13/2012	10/25/2012
North 42 Leasing Company (Parking Lot)	4637 N. 42nd Avenue, Phoenix, AZ 85019 (North Plume)	10/9/2008	12/31/2008
North 42 Leasing Company	4340 N. 42nd Avenue, Phoenix, AZ 85019 (North Plume)	10/9/2008	12/31/2008



## ***Appendix I:***

### **Consent Orders and Settlements**

The following table presents a list of parties that have entered into consent decree settlements with the Arizona Department of Environmental Quality for properties in or around the West Central Phoenix WQARF sites as of January 2022.

<b>West Central Phoenix WQARF Site</b>	<b>Party Name</b>	<b>Date Consent Decree Signed by Judge</b>	<b>Public Notice Date</b>
North Plume	F&B Mfg. Co.	05/05/1993	05/05/1993
North Plume	F&B Mfg. Co.	08/26/1999	08/26/1999
West Osborn Complex	Corning Inc.	09/18/1996	09/18/1996
West Osborn Complex	Nucor Corporation	09/22/1992	09/22/1992
West Osborn Complex	United Industrial Corporation	05/16/1996	05/16/1996

## **Acronyms and Glossary of Terms**

**1,1-Dichloroethylene (1,1-DCE):** A colorless liquid with a sharp odor that is used to make certain plastics, packaging materials, and flame-retardant coatings. Typically, when found in the environment, it is a degradation product of other chlorinated solvents.

**Aquifer:** An underground lithologic formation composed of such materials as sand, soil, gravel, or bedrock that can store groundwater and supply it to wells and springs. In aquifers, groundwater occurs in sufficient quantities to be used for drinking water, irrigation, and other purposes.

**Aquifer Water Quality Standards (AWQS):** State of Arizona maximum levels for contaminants that apply to groundwater in aquifers designated for drinking water use. For example, the AWQS level for tetrachloroethene (PCE) is 5 micrograms per liter (µg/L).

**Arizona Administrative Code (A.A.C.):** The A.A.C. is where the official rules of the State of Arizona are published. The A.A.C. is the official compilation of rules that govern state agencies, boards, and commissions.

**Arizona Department of Environmental Quality (ADEQ):** ADEQ is the executive agency of the Arizona State Government mandated to enforce and administer the State's environmental laws and regulations.

**Arizona Revised Statutes (A.R.S.):** State laws adopted by the Arizona State Legislature.

**Benzene, Toluene, Ethylbenzene, Xylene (BTEX):** Compounds typically found in petroleum products such as gasoline and diesel fuel.

**Cleanup:** Actions taken that deal with a release or threat of a release of hazardous substances that could adversely affect public health and/or the environment. The word "cleanup" is sometimes used interchangeably with the terms remedial action, removal action, response action, remedy, remediation, or corrective action.

**Chromium:** Chromium is an odorless and tasteless metallic element. Chromium is found naturally in rocks, plants, soil, humans, and animals. The most common forms of chromium that occur in natural waters in the environment are trivalent chromium (chromium-3), and hexavalent chromium (chromium-6). Chromium-3 has relatively low toxicity and would be a concern in drinking water only at very high levels of contamination. Chromium-6 is more toxic and poses potential health risks. People who use water containing total chromium in excess of the maximum contaminant level over many years could experience health concerns.

**Community Advisory Board (CAB):** A diverse group of community members interested in or affected by the presence of a WQARF site. By statute, ADEQ is required to form a CAB for each WQARF Registry site where ADEQ is initiating a Remedial Investigation. ADEQ seeks the CAB's input in the decision-making process and works with them from the onset of the Remedial Investigation/Feasibility Study process until the requirements of the Record of Decision have been fulfilled.

**Community Involvement Area:** The mailing area of residences and businesses used in the notification for public meetings and other written notices regarding a site.

**Community Involvement Coordinator:** The ADEQ employee responsible for ensuring that all statutes and rules related to the involvement of the public and public outreach at WQARF sites are upheld and complied with by ADEQ. Community Involvement Coordinators manage and coordinate the work of CABs for WQARF sites.

**Community Involvement Plan (CIP):** A document that identifies techniques used by ADEQ and the U.S. Environmental Protection Agency to communicate effectively with the public during the cleanup process at a specific site. The CIP describes the site history, nature and history of community involvement, and concerns expressed during community interviews. In addition, the plan outlines methodologies and timing for continued interaction between the regulatory agencies and the public at the site.

**Contamination:** Any hazardous or regulated substance released into the environment.

**Contaminant:** Any physical, chemical, biological, or radiological substance or matter present in any media at concentrations that may result in adverse effects on air, water, or soil. A harmful or hazardous matter introduced into the environment that is not normally found there, or not naturally occurring

**Early Response Action (ERA):** Refers to a remedial action performed prior to the final remedy, and often prior to completion of the Remedial Investigation. An ERA addresses current risks to public health, welfare, and the environment; protects or provides a supply of water; addresses sources of contamination; or controls or contains contamination where such actions are expected to reduce the scope or cost of the remedy needed at the site. Also referred to as an Interim Remedial Action.

**Feasibility Study (FS):** A process to identify a reference remedy and alternative remedies that appear to be capable of achieving the Remedial Objectives for the site. It is often done as part of a two-phase investigation in conjunction with a Remedial Investigation.

**Granular Activated Carbon (GAC):** Treatment process used to remove dissolved contaminants from water or air by absorption.

**Groundwater:** Water located beneath the ground surface in soil pore spaces and in the fractures of geologic formations. A formation of rock or soil is called an aquifer when it can yield a usable quantity of water.

**Hazardous Substance:** Any material that, because of its quantity, concentration, physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment.

**Interim Remedial Action (IRA):** An interim measure to remove or isolate contamination. This action can be taken at any time during the Superfund/WQARF process and is usually taken to protect people and the environment from high levels of contamination until the final Remedial Action can be taken.

**Information Repository:** The location where a collection of documents about a specific project is stored. Information on certain WQARF and Superfund sites may be available at ADEQ offices and libraries throughout the state.

**Methyl Tertiary Butyl Ether (MTBE):** A colorless liquid that is a derivative of fossil fuels. MTBE is a [gasoline](#) additive, used as an [oxygenate](#) to raise the [octane number](#).

**Monitored Natural Attenuation (MNA):** Describes a range of physical and biological processes, which, unaided by deliberate human intervention, reduce the concentration, toxicity, or mobility of chemical or radioactive contaminants. These processes take place whether or not other active cleanup measures are in place.

**Monitoring Wells (Monitor Wells):** Wells installed for the purpose of collecting samples such as groundwater and soil gas. Analytical results from samples are used to characterize the extent of contamination, the direction of groundwater flow, and the types and quantities of contaminants present in the groundwater.

**Nitrate:** A compound containing nitrogen and oxygen that exists in the atmosphere or as a dissolved gas in water and has harmful effects on humans and animals. A plant nutrient and inorganic fertilizer, nitrate is found in septic systems, animal feed lots, agricultural fertilizers, manure, industrial waste waters, and sanitary landfills.

**Operation and Maintenance (O&M):** 1. Activities conducted after a WQARF/Superfund site action is completed to ensure that the action is effective. 2. Actions taken after construction to ensure that facilities constructed to remediate soil or groundwater, or treat wastewater will be properly operated and maintained to achieve normative efficiency levels and prescribed effluent limitations in an optimum manner. 3. Ongoing asbestos management plan in a school or other public building, including regular inspections, various methods of maintaining asbestos in place, and removal when necessary.

**Plume:** A well-defined area of contamination in groundwater, soil, or the air often used to describe the dispersion of contamination in soil and/or groundwater.

**Potentially Responsible Parties (PRPs):** Those parties (individuals, corporations) identified by state or federal authorities as potentially liable for cleanup costs at a contaminated site.

**Preliminary Investigation (PI):** The process of collecting and reviewing available information about a known or suspected hazardous waste site or release.

**Proposed Remedial Action Plan (PRAP):** A document that reviews the cleanup alternatives presented in the site Feasibility Study and identifies ADEQ's preferred alternative. Selection of a preferred alternative is not a closed-end commitment to use that alternative; rather, it is a way for the agency to indicate, based on experience and expertise, which alternative is the most likely course of action. ADEQ must actively solicit public review of and comment on all the alternatives under consideration.

**Public Comment Period:** A period during which the public can formally review and comment on various documents and ADEQ actions.

**Record of Decision (ROD):** A legal document that announces and explains the cleanup methods ADEQ will use at a Superfund/WQARF site. The Record of Decision is based on information and technical analysis generated during the Remedial Investigation and Feasibility Study, and on consideration of comments received during the public comment record for the Proposed Remedial Action Plan.

**Remedial Action (RA):** Any action taken to investigate, monitor, assess and evaluate the release or threat of release of hazardous substances or contaminants to the environment. It may also refer to the actual "cleanup" of the environment by various removal, treatment, monitored remediation, or corrective actions. The term cleanup is sometimes used interchangeably with the terms remedial action, removal action, response action, remedy, remediation, or corrective action.

**Remedial Investigation (RI):** Establishes the nature and extent of the contamination and the sources; identifies current and potential impacts to public health, welfare, and the environment; identifies current and reasonably foreseeable uses of land and waters of the state; and obtains and evaluates any information necessary for identification and comparison of alternative Remedial Actions.

**Remedial Objective (RO):** Established remedial goals for the current and reasonably foreseeable uses of lands and waters of the state that have been or are threatened to be affected by a release of hazardous substance.

**Remediation:** Cleanup or other methods used to remove or contain a toxic spill or hazardous materials.

**Remedy:** Cleanup method chosen for a site.

**Responsible Party:** An individual or company (e.g., an owner, operator, transporter, or generator of hazardous waste) that is responsible for the contamination problems at a Superfund/WQARF site.

Whenever possible, responsible parties are required to clean up hazardous waste sites they have contaminated.

**Responsiveness Summary:** A summary of oral and written comments and ADEQ responses to those comments received during the public comment period.

**Soil Vapor Extraction (SVE):** Soil vapor extraction removes contaminant vapors from below ground for treatment above ground. Soil vapor extraction removes vapors from the soil above the water table by applying a vacuum to pull the vapors out. The method is used for chemicals that evaporate easily, such as those found in solvents and gasoline.

**Superfund:** The program operated under the legislative authority of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and the Superfund Amendments and Reauthorization Act (SARA) that funds and carries out solid waste emergency and long-term removal and remedial activities. These activities include establishing the National Priorities List, investigating sites for inclusion on the list, determining their priority, and conducting and/or supervising cleanup and other remedial actions. It provides for the cleanup of hazardous substances released into the environment, regardless of fault. The term Superfund also is used to refer to cleanup programs designed and conducted under CERCLA and its subsequent amendments.

**Tetrachloroethene or Tetrachloroethylene or Perchloroethene (PCE):** A clear, colorless, liquid with a chloroform or sweet odor and a low boiling point; a solvent used for dry-cleaning; degreasing and drying metals and other solids; dissolving waxes, greases, oils, fats, and gums, and in other industrial applications. PCE is a potential occupational carcinogen.

**Trichloroethene or Trichloroethylene (TCE):** A colorless liquid used as a solvent, metal degreasing agent, and in other industrial applications. TCE is a known carcinogen.

**Volatile Organic Compounds (VOC):** A large group of carbon-containing compounds that are easily dissolved into water, soil, or the atmosphere and evaporate readily at room temperature. Examples of VOCs include PCE, TCE, benzene, toluene, ethylbenzene, and xylene. These contaminants are typically generated from metal degreasing, printed circuit board cleaning, gasoline, and wood preserving processes.

**Water Quality Assurance Revolving Fund (WQARF):** Also known as the State Superfund, WQARF is the program and funding used to address hazardous substance releases within the state that are not covered by other specific programs.

